<u>IN THE CLAIMS</u>

1. (Currently amended) A method of generating data traffic in a traffic generator, the method comprising the steps of:

generating a plurality of traffic flows; and

associating each of the traffic flows with at least one of a plurality of output interfaces of the traffic generator such that <u>at least two of the plurality of output interfaces each has one or more of the traffic flows associated therewith and</u> ~~each of at least a subset~~ <u>at least one</u> of the plurality of output interfaces has two or more of the traffic flows associated therewith;

the traffic flows comprising respective test traffic flows synthesized within the traffic generator.

2. (Original) The method of claim 1 wherein at least one of the traffic flows is generated based on user selection of at least one of a protocol encapsulation, a packet size distribution model, a packet arrival time distribution model, a traffic model, and a packet payload description.

3. (Original) The method of claim 1 wherein the output interfaces are associated with an output interface bus of the traffic generator.

4. (Original) The method of claim 3 wherein the output interface bus is implemented as a software module representative of one or more physical connections.

5. (Original) The method of claim 1 wherein each of the plurality of traffic flows maps to one of the output interfaces of the traffic generator and to an input interface of the traffic generator.

6. (Original) The method of claim 1 wherein the traffic generator is operable in at least two phases, including a first phase in which a timestamp table is constructed based at least in part on user-selected configuration information, and a second phase in which packets are generated using the timestamp table constructed in the first phase.

7. (Previously presented) The method of claim 1 wherein the traffic generator comprises a pattern generator having a plurality of user-selectable pattern generation processes associated therewith, at least a given one of the processes generating a configuration list.

8. (Original) The method of claim 1 wherein the traffic generator comprises a sequencer having a plurality of user-selectable sequencing processes associated therewith, a given one of the sequencing processes specifying an order of selection of items from a configuration list.

9. (Previously presented) The method of claim 8 wherein the plurality of sequencing processes comprises a group sequencer which provides a correlative mapping between two or more configuration lists and their associated parameters.

10. (Original) The method of claim 1 wherein information characterizing one or more of the traffic flows is stored as a traffic file in a memory associated with the traffic generator.

11. (Original) The method of claim 10 wherein the traffic file is represented as a string which includes a global header followed by one or more frames each having an associated frame header.

12. (Previously presented) The method of claim 11 wherein the global header comprises a type field indicating a type of traffic description used, and a clock speed field indicating a clock speed of the associated output interface.

13. (Original) The method of claim 11 wherein a given one of the frame headers comprises a flow identification field which identifies one or more traffic flows associated with the corresponding frame, a timing field indicating a time gap in clock cycles between the corresponding frame and a previous frame, and a length field indicating the length of the corresponding frame.

14. (Original) The method of claim 1 wherein the traffic generator comprises a hardware traffic generator.

15. (Original) The method of claim 1 wherein the traffic generator comprises a software traffic generator.

16. (Previously presented) The method of claim 1 wherein the traffic generator comprises an element of a software-based development tool for simulating the operation of an electronic system.

17. (Original) The method of claim 1 wherein the traffic generator is implemented primarily in software and is configured to generate data traffic files that are utilizable in another traffic generator implemented primarily in hardware.

18. (Currently amended) An apparatus for generating data traffic, the apparatus comprising an information processing device having a processor and a memory, the information processing device implementing a traffic generator operative:

to generate a plurality of traffic flows; and

to associate each of the traffic flows with at least one of a plurality of output interfaces of the traffic generator such that at least two of the plurality of output interfaces each has one or more of the traffic flows associated therewith and each of at least a subset at least one of the plurality of output interfaces has two or more of the traffic flows associated therewith;

the traffic flows comprising respective test traffic flows synthesized within the traffic generator.

19. (Currently amended) An article of manufacture comprising a computer-readable medium encoded with computer executable instructions for use in generating data traffic in a traffic generator, which when executed implement the steps of:

generating a plurality of traffic flows; and

associating each of the traffic flows with at least one of a plurality of output interfaces of the traffic generator such that at least two of the plurality of output interfaces each has one or more of the traffic flows associated therewith and each of at least a subset at least one of the plurality of output interfaces has two or more of the traffic flows associated therewith;

the traffic flows comprising respective test traffic flows synthesized within the traffic generator.

20. (Previously presented) An article of manufacture comprising a computer-readable storage medium encoded with one or more data structures comprising information characterizing one or more traffic flows associated with at least one traffic generator, represented as a string which includes a global header followed by one or more frames each having an associated frame header, wherein the global header comprises a clock speed field indicating a clock speed of an associated output interface.

21. (Previously presented) An article of manufacture comprising a computer-readable medium encoded with one or more data structures comprising information characterizing one or more traffic flows associated with at least one traffic generator, represented as a string which includes a global header followed by one or more frames each having an associated frame header, wherein a given one of the frame headers comprises a timing field indicating a time gap in clock cycles between the corresponding frame and a previous frame.